IN THE SPECIFICATION

Please delete the heading on page 1, line 1 as follows.

~~SPECIFICATION~~

Please add the following new heading and paragraph before the heading on page 1, line 6.

CROSS-REFERENCE TO RELATED APPLICATION

The present application claims priority of application serial number 103 12 271.0 filed on March 19, 2003 in Germany.

Please replace the heading on page 1, line 6 as follows.

1. Field~~Art~~ of the Invention

Please replace the heading on page 1, line 14 as follows.

2. Background of the Invention

Please replace the paragraph on page 2, lines 14-25 as follows.

~~Therefore, in particular~~Not only for such accelerators and storage rings, but also for target devices and experimental and analytical devices, there is a need for effective radiation shielding. Effective radiation shielding ~~which also~~ shields fast neutrons effectively~~, in particular~~ in the MeV or even GeV range, which, as compared with electromagnetic radiation and with thermalized or at least relatively slow neutrons in the region of a few electron volts (eV), represents a completely new requirement. It is precisely the combination of effective shielding against

electromagnetic radiation and, at the same time, against fast neutrons that proves to be difficult in practice.

Please replace the paragraph on page 2, lines 27-32 as follows.

A further problem results from activation, (e.g., ~~in particular also~~ as a result of the fast neutrons), which partly leads to long-lived radionuclides. This makes the breakdown and the disposal of the shielding material extremely problematic. In this regard, too, there is a need for an advantageous alternative to concrete.

Please replace the heading on page 3, line 7 as follows.

BRIEF SUMMARY OF THE INVENTION ~~Summary of the Invention~~

Please replace the paragraph on page 4, lines 26-31 as follows.

For example, t~~T~~he thickness of the shielding element is matched ~~in particular~~ to the radiation spectra of a high-energy particle accelerator and/or high-energy particle storage ring for electrons, positrons or ions, in the case~~for example~~ of a synchrotron, ~~in particular~~ given particle energies of greater than 10 GeV or greater than 30 GeV.

Please replace the paragraph on page 5, lines 18-31 as follows.

Nevertheless, it is also~~can further be~~ advantageous to provide single-sided or two-sided loadbearing layers or formwork. F~~, f~~or example layers of concrete, which have the effect of a dual benefit:~~, specifically~~ stabilization and additional shielding against gamma

radiation. Depending on the desired height, the concrete formwork can provide the necessary stability, so that use can be made of a radiation shielding arrangement~~s~~ whose gypsum wall would not be self-supporting on its own but, in conjunction with the formwork, is then self-supporting. T~~, t~~hat is to say, the radiation shielding arrangement exhibits self-supporting stability properties on account of the loadbearing layer or loadbearing layers. The thickness of the loadbearing layer is~~will in particular be~~ dimensioned accordingly.

Please replace the paragraph on page 6, lines 12-26 as follows.

According to a particularly preferred embodiment of the invention, the ~~formwork, in particular the~~ concrete formwork~~,~~ itself contains a neutron-absorbing material, for example a boron-containing material. It is possible, for example, for boric acid or boron carbide to be admixed with the formwork material, for example the concrete. However, it has proven to be still more advantageous if the formwork has boron-containing glass. This is considerably less expensive than boron carbide and, even if it is mixed in, maintains the stability of the concrete better than boric acid. Boron-containing glass can be added in particular instead of or in addition to additives that are normally used, such as shingle. Alternatively or additionally, the material of the shielding element, in particular of the gypsum, can contain boron-containing glass.

Please replace the heading on page 8, line 12 as follows.

BRIEF DESCRIPTION OF THE DRAWINGS~~Brief Description of the Figures~~

Please replace the heading on page 8, line 19 as follows.

DETAILED DESCRIPTION OF THE INVENTION~~Detailed Description of the Invention~~

Please replace the paragraph on page 11, lines 2-12 as follows.

It can be seen that, in gypsum, a radioactivity that is lower by a factor of about 1.2 is produced. Furthermore, the type of radioactivity produced. T~~, t~~hat is to say, the distribution of the radionuclides produced~~,~~ is more advantageous in the case of gypsum than in the case of concrete, if the release values in accordance with the current German radiation protection law are taken as a scale (factor 4.41). The result of this is that the costs for subsequent disposal after ending the utilization of the radiation shielding arrangement according to the invention will be lower than in the case of conventional shielding.